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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,992	02/03/2004	Hiroshi Sato	1232-5274	3572
27123	7590	09/25/2006	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			PUNNOOSE, ROY M	
			ART UNIT	PAPER NUMBER
			2877	
DATE MAILED: 09/25/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/771,992

Applicant(s)

SATO ET AL.

Examiner

Roy M. Punnoose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11/23/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of claims 1-16 in the reply filed on July 06, 2006 is acknowledged. The traversal is on the ground(s) that for the restriction requirement to be proper there must be a serious burden on the Examiner, and, undue diverse search is not required. This is not found persuasive for the following reason(s):

Invention of Group II (claim 17) and Group I (claims 1-16) are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination (Group II, claim 17) as claimed does not require the particulars of the subcombination as claimed because a device fabricating method of claim 17 does not require a position sensor for fabricating a device. The subcombination (Group I, claim 1-16) has separate utility such as determining the distance of an object from a reference point.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

**The requirement is still deemed proper and is therefore made FINAL.**

***Specification***

2. The specification is objected to because in the "Brief Description of the Drawings" section, a brief description of Figure 8 is provided. However, Figure 8 is not included in the drawings. The brief description of Figures 8A, 8B and 8C are missing from this section. Similarly, description of Figures 10A, 10B, 10C, 14A, 14B and 14C are missing from this section. See MPEP § 608.01(f) and reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

3. The specification is objected to for the following reason:

- a. The first space, second space, pupil plane, etc are not defined in the specification. Appropriate correction is required.
- b. Typographical error on page 33, line 12 where stage is spelled as "stag." Appropriate correction is required.
- c. The ***Abstract*** recites, "said partitioning member" in lines 10-11. There is insufficient antecedent basis because there is no prior recitation of a partitioning member in the abstract. Appropriate correction is required.

***Drawings***

4. The drawings are objected to for the following reasons:

- d. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:  
Reference number 10 is missing in the figures.

e. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “112” has been used to designate both “illumination optical system” and a “reticle” (see page 33, lines 11-12).

f. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore the first space, second space, pupil plane, etc must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 1 recites the limitation "said partitioning member" in line 9. There is insufficient antecedent basis for this limitation in the claim. There is no prior recitation of a partitioning member in the claim. Appropriate correction is required.
8. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is rejected because the limitations "the first space", "the second space", "pupil plane", "the object", etc., are not defined in the specification and therefore has rendered the claim vague and indefinite. Appropriate correction is required.
9. Claims 2-5 are rejected because they are dependent on claim 1 and they include all the limitations of claim 1, and therefore has rendered the claims vague and indefinite.
10. Claim 7 recites the limitation "said first optical element" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. There is no prior recitation of a first optical element in claim 6 or claim 7. Appropriate correction is required.
11. Claim 14 recites the limitation "said partitioning member" in line 11. There is insufficient antecedent basis for this limitation in the claim. There is no prior recitation of a partitioning member in the claim. Appropriate correction is required.
12. Claims 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 14-15 are rejected because the limitations "the first space" and "the second space" are not defined in the specification and therefore has rendered the claim vague and indefinite. Appropriate correction is required.

13. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is rejected because the limitations “the first space”, “the second space”, “pupil plane”, “the object”, etc., are not defined in the specification and therefore has rendered the claim vague and indefinite. Appropriate correction is required.

14. Because claims 1-5 and 14-16 have raised serious 35 USC 112 issues, they have not been treated on their merits. They will be examined after the applicant makes appropriate corrections to overcome the above listed deficiencies.

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi (US\_2002/0080338 A1).

17. Claim 6 is rejected because:

- A. Taniguchi teaches of a projection exposure apparatus comprising a correction members/wedges 12, 13 for correcting an optical change caused by a deformation of optical element due to pressure changes in the atmosphere (see numbered paragraphs [0064] and [0065]; Figures 4a-4b, 8a-8b), for improving the accuracy of the apparatus by compensating for any error caused by the pressure change.

B. In view of Taniguchi's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Taniguchi's correction member into any optical apparatus having a partitioning member for partitioning two spaces having different pressures, for improving the accuracy of the apparatus by compensating for any error caused by the pressure change.

18. Claim 7 is rejected for the same reasons of rejection of claim 6 and because Taniguchi teaches of a detector 29 (see numbered paragraphs [0066]) and in view of Taniguchi's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to position the detector at any desired location to obtain an improvement in the accuracy of the apparatus.

19. Claim 8 is rejected for the same reasons of rejection of claim 6 and because Taniguchi teaches that the optical element is a lens (see Figure 1).

20. Claim 9 is rejected for the same reasons of rejection of claim 6 and because Taniguchi teaches that the correction member is at least one of a parallel plate and a wedge optical member (see numbered paragraphs [0064] and [0065]; Figures 4a-4b, 8a-8b).

21. Claim 10 is rejected for the same reasons of rejection of claim 6 and because in view of Taniguchi's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to corrects a positional offset on a plane perpendicular to an optical axis on an image surface of the object to obtain an improvement in the accuracy of the apparatus.

22. Claim 11 is rejected for the same reasons of rejection of claim 6 and because in view of Taniguchi's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to position the correction member at a location that generates sensitivity



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similar to the optical change, and said correction member corrects at least spherical aberration to obtain an improvement in the accuracy of the apparatus.

23. Claims 12 and 13 are rejected for the same reasons of rejection of claim 6 and because Taniguchi teaches that the optical change includes a magnification, and said correction member includes a processor 30 for correcting the magnification through processing and corrects a shift of a focus position (see numbered paragraphs [0063]; Figure 1).

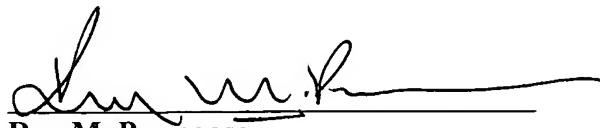
***Contact/Status Information***

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Roy M. Punnoose** whose telephone number is **571-272-2427**. The examiner can normally be reached on 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gregory J. Toatley, Jr.** can be reached on **571-279992-2800 ext.77**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 16, 2006

  
**Roy M. Punnoose**  
Patent Examiner  
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